



SEQUENCE LISTING

<110> IWASE, Tadayuki
ITANO, Morihide
YANO, Yoshitaka

<120> Primers For Detecting *Fusobacterium nucleatum* By Pcr Methods And Methods For Detection

<130> 246312US0

<140> 10/729,961

<141> 2003-12-09

<150> JP 2002-358698

<151> 2002-12-10

<150> JP 2003-403715

<151> 2003-12-02

<160> 17

<170> PatentIn version 3.1

<210> 1

<211> 1661

<212> DNA

<213> *Fusobacterium nucleatum*

<220>

<221> misc_feature

<222> (1650)..(1650)

<223> n stands for any base

<400> 1
attgaacgaa gagtttgatc ctggctcagg atgaacgctg acagaatgct taacacatgc 60
aagtctactt gaatttgggt tttttaactt cgatttgggt ggcggacggg ttagtaacgc
gtaaagaact tgcctcacag ctagggacaa catttggaaa cgaatgctaa tacctgatat 120
tatgattata gggcatccta gaattatgaa agctatatgc gctgtgagag agctttgcgt
cccattagct agttggagag gtaacggctc accaaggcga tgatggtag cccgcctgag 180
agggtgaacg gccacaaggg gactgagaca cggcccttac tcctacggga ggcagcagtg 240
ggaaatattg gacaatggac cgagagtctg atccagcaat tctgtgtgca ccatgacgtt
tttcggaatg taaagtgctt tcagttggga agaaaaaaaaat gacggtacca acagaagaag 300
420
480

tgacggctaa atacgtgcc a gcagccgcgg taatacgtat gtcacgagcg ttatccggat	540
ttattggcgt taaagcgcgt ctaggtggtt atgtaagtct gatgtaaaaa tgcagggctc	600
aactctgtat tgcgttggaa actgtgtaac tagagtactg gagaggtaag cgaaactaca	660
agtgttagagg taaaattcgt agatatttgc aggaatgccg atggggaaac cagttactg	720
gacagatact gacgctgaag cgcgaaagcg tgggttagcaa acaggattag ataccctgg	780
agtccacgccc gtaaacgatg attactaggt gttgggggtc gaacctcagc gcccaagcaa	840
acgcgataag taatccgcct ggggagtacg tacgcaagta taaaactcaa aggaattgac	900
ggggacccgc acaagcggtg gagcatgtgg tttaattcga cgcaacgcga ggaaccttac	960
cagcgttga catcttagga atgagacaga gatgtttcag tgtcccttcg gggaaaccta	1020
aagacaggtg gtgcattggct gtcgtcagct cgtgtcgtga gatgttgggt taagtccgc	1080
aacgagcgca accccttcg tatgttacca tcattaagtt gggactcat gcgatactgc	1140
ctacgatgag taggaggaag gtggggatga cgtcaagtca tcatgcccct tatacgctgg	1200
gctacacacg tgctacaatg ggtagaacag agagttgcaa agccgtgagg tggagcta	1260
ctcagaaaac tattcttagt tcggatttgc ctctgcaact cgagtacatg aagttggaat	1320
cgctagtaat cgcaatcag caatgtcgcg gtgaatacgt tctcgggtct tgtacacacc	1380
gcccgtcaca ccacgaggt tggttgcacc tgaagtagca ggcctaaccg taaggaggg	1440
tgtccgagg gtgtgatttag cgattgggtt gaagtcgtaa caaggtatcc gtacggaaac	1500
gtgcggatgg atcacccct ttctaaggag aatgtgtctt tctctattct attggtaatg	1560
ttcttacatt acttctgaac attggaaact atatagtaga acaaacaaga aaaaaattaa	1620
ctctaaacaa tttctttaga gttagcttgn caaaaaaataa g	1661

<210> 2
 <211> 2927
 <212> DNA
 <213> *Fusobacterium nucleatum*

<400> 2	
gttaaaataa ttaagggcac acaaaggatg cctaggtgt aagagccat gaaggacgtg	60
gtaagctgctg ataagcctag ataagttgca atcgaacgtc agagtctagg atttccgaat	120

ggagcaatct attaagatgg agtcttaata cgaaagaggg aaccgcgtga actgaaacat	180
ctaagtaacg cgagggaaaag aaagtaaaaaa cgatacccaa agtagcggcg agcgaactgg	240
gtcaaggcta aaccttaaat atgtcaagga tacagccgtt gtatttaagg ggtagagggaa	300
caaagtatgtg aagaactgt a agatattcaa tatagtgtat tcatgtatgtt gattgtctg	360
gaaagatgaa ccgcagaagg tgaaagtccct gtataagtaa atccttacac atataacttt	420
gctcccaagt aacatggAAC acgaggaatt ctgtgtgaat cagtgaggac caaatctcat	480
aaggctaaat actcttacta accgatagcg catagtaccg tgagggaaag gtgaaaagaa	540
cccctggagg ggagtgaaat agaacctgaa attgtgtgct tacaagcggt cagagcccat	600
ttgggtgatg gcgtgcctt tggagaatga tcctgcgagt tacgttaaac ggcgaggtta	660
agtataacgg agccgaaggg aaaccaagtc ttaatagggc gaattagtcg tttggcgtag	720
acgcgaaacc tggtgatcta aacctgtcca ggtgaagct gtggtaagac acagtggagg	780
tcctaaccctt ccgcgttga aaagttgggg gatgaggttag gtttaggggt gaaaagccaa	840
tcgaaccagg agatagctcg ttctctccga aatgcatactt ggtgcagccct tgagtgttca	900
attatggggg tagagcactg aatgatctag gggcatatt gcttactgaa atcaatcaaa	960
ctccgaatac cataattttt agtcaggag tgagactatg ggagttact tccattgtca	1020
aaaggaaac aacccagacc accagctaag gtccctaatt ataactaagt gggaaaggag	1080
gtggagattc acaaacaact aggaggttgg cttagaagca gccataccct taaagagtgc	1140
gtaatagctc actagtcgag agtctctgctcg ccgacaatgt aacggggcta agttataaac	1200
cgaagctgtg gaatcctttt ggattggtag gagagcgttc ttagggccgt tgaagaagaa	1260
ggtaaccga ctggaggtt atcagaagtg agaatgcagg aataagtagc gagaaagggg	1320
gagagaatcc tcctcgccgg aagaccaagg tttcaggggt aaagcttgc tttccctgagt	1380
aagccggac ctaagcccaag gctataatgc gtaggcgaat ggaaaacaga ttaatatttc	1440
tgtgccagtc atgtattgtg atggagggac gcagaagggt atgcgcgcgg acgaacggaa	1500
gtgtccgttag aagtatgttag ggtgacttag tagttaaatc cattaaggta aatctgaggt	1560
atgatataca gtcgtaagat gaatgcgcaa atcccacgct gccaagaaaa gcttctaacg	1620

ttaatatatg actgcccgt a ctgtaaaccg acacagggtgg tcaggatgag aatctaagg	1680
cgacaggct aactctcgtt aaggaactct gcaaaataac ctcgttaactt cggagaaga	1740
ggagcccttg tgtgtgagta tacacgcgt acaaagcgca cgagggtcgc agtgaagagg	1800
ctcaagcaac ttttaacaa aaacacaggt ctatgctaag ctgttaaggcg atgtatatgg	1860
gctgacacct gcccagtgc ggaaggtaa gaggaggagt gagagctccg aattgaagcc	1920
ccagtgaacg gcggccgtaa ctataacggt cctaaggtag ccaaattcct tgcggtaa	1980
gttccgacacct gcacgaatgg ttaatgatt tgacgctgt ctgtacggga ggcctggta	2040
aattgtatta ccgtgaaga taccggttac ctacagtagg acggaaagac cccatggagc	2100
tttactgttag ctggatttgc gttttggca ttgcattat agatagttg ggagactatg	2160
atgatatggc gctagctgta tcggagtcat cggtaata ccaaccattc aatgctgaa	2220
ttctaatctg tggttgttag ccacggagac agtgcgttgc gggcagttg actggggcgg	2280
tcgcctccga aagagtaacg gaggcgttca aaggttctc caggttggat gaaatcaac	2340
catagagtgc aatggcataa gagagcttga ctgcaagact gacgggtcga gcagatgcga	2400
aaggcaggaca tagtgcgttgc gcgttccga atggaagggt cgtcgctcaa cggataaaag	2460
ctaccctggg gataacaggc tgatcctacc cggatccca tatcgacggt agggttggc	2520
acctcgatgt cggctcatcg catcctgggg ctggagaagg tcccaagggt tggctgttc	2580
gcccattaaa gcgttacgtt agctgggttc agaacgtcgt gagacagttc ggtccctatc	2640
cactgttaggc gttagaatat tgagaagacc tgccttagt acgagaggac cggatggac	2700
aaacctctga tgtaccagtt gtcacgcccag tggcacagct ggttagtcac gtttggaaata	2760
gataaccgct gaaagcatct aagcggaaa ctaacttcaa gataagtatt cttaagata	2820
ccttcgagcc taggaggtt ataggttggg ggtgttaagta cagcaatgta tttagctgac	2880
caataactaat tatcgttacgtt ttaatctaat atctactata tagttc	2927

<210> 3
 <211> 883
 <212> DNA
 <213> *Fusobacterium nucleatum*

<220>

```

<221> misc_feature
<222> (153)..(153)
<223> n stands for any base

<400> 3
aacgtgcgga tggatcacct cctttctaaag gagaatgtgt ctttctctat tctattggta      60
atgttcttac attacttctg aacattggaa actatatagt agaacaaaca agaaaaaaat      120
taactctaaa caatttcttt agagttagct tgncaaaaaa taggttaaaa taattaaggg      180
cacacaaagg atgccttaggt agtaagagcc gatgaaggac gtggtaagct gcgataagcc      240
tagataagtt gcaatcgaac gtaagagtct aggatttccg aatggagcaa tctattaaga      300
tggagtctta atacgaaaga gggAACCGCG tgaactgaaa catctaagta acgcgaggaa      360
aagaaagtaa aaacgataacc caaagtagcg gcgcgcgaac tgggtcaagc ctaaacctta      420
aatatgtcaa ggatacagcc gttgtattta agggtagag ggacaaagta gtgaagaact      480
gtaagatatt caatatagtg tattgatgaa tttagaattgt ctggaaagat gaaccgcaga      540
aggtgaaagt cctgtataag taaatccctta cacatataac tttgctccca agtaacatgg      600
aacacgagga attctgtgtg aatcagttag gaccaaatct cataaggcta aatactctta      660
ctaacccgata gcgcatacgta ccgtgagggaa aaggtgaaaa gaacccctgg aggggagtga      720
aatagaacct gaaattgtgt gcttacaagc ggtcagagcc catttgggtg atggcgtgcc      780
ttttggagaa tgatcctgcg agttacgtta aacggcgagg ttaagtataa cgagccgaa      840
gggaaaccaa gtcttaatag ggcgaattag tcgtttggcg tag      883

<210> 4
<211> 1502
<212> DNA
<213> Fusobacterium nucleatum

<400> 4
attgaacgaa gagttgatc ctggctcagg atgaacgctg acagaatgct taacacatgc      60
aagtctactt gaatttgggt ttttaactt cgatttgggt ggcggacggg tgagtaacgc      120
gtaaagaact tgcctcacag ctagggacaa catttggaaa cgaatgctaa tacctgatat      180
tatgattata gggcatccta gaattatgaa agctatatgc gctgtgagag agctttgcgt      240

```

cccattagct	agttggagag	gtaacggctc	accaaggcga	tgatggtag	ccggcctgag	300
agggtgaacg	gccacaaggg	gactgagaca	cggccttac	tcctacggga	ggcagcagtg	360
ggaaatattg	gacaatggac	cgagagtctg	atccagcaat	tctgtgtgca	cgtgacgtt	420
tttcggaatg	taaagtgcct	tcaagttggga	agaaaaaaat	gacggtacca	acagaagaag	480
tgacggctaa	atacgtgcca	gcagccgcgg	taatacgtat	gtcacgagcg	ttatccggat	540
ttattggcg	taaagcgcgt	ctaggtggtt	atgtaagtct	gatgtgaaaa	tgcagggctc	600
aactctgtat	tgcgttggaa	actgtgtaac	tagagtactg	gagaggtaag	cggactaca	660
agtgttagagg	tgaaattcgt	agatatttgt	aggaatgccg	atggggaaagc	cagcttactg	720
gacagatact	gacgctgaag	cgcgaaagcg	tgggtagcaa	acaggattag	ataccctggt	780
agtccacgccc	gtaaacgatg	attactaggt	gttgggggtc	gaacctcagc	gcccaagcaa	840
acgcgataag	taatccgcct	ggggagtacg	tacgcaagta	tgaaactcaa	aggaattgac	900
ggggacccgc	acaagcggtg	gagcatgtgg	tttaattcga	cgcaacgcga	ggaaccttac	960
cagcgttga	catcttagga	atgagacaga	gatgtttcag	tgtcccttcg	ggaaacaccta	1020
aagacaggtg	gtgcattggct	gtcgtcagct	cgtgtcgtga	gatgttgggt	taagtccgc	1080
aacgagcgca	accctttcg	tatgttacca	tcattaagtt	ggggactcat	gcgatactgc	1140
ctacgatgag	taggaggaag	gtggggatga	cgtcaagtca	tcatgcccct	tatacgctgg	1200
gctacacacg	tgctacaatg	ggtagaacag	agagttgcaa	agccgtgagg	tggagctaatt	1260
ctcagaaaac	tattcttagt	tcggatttgc	ctctgcaact	cgagtacatg	aagttggaat	1320
cgctagtaat	cgcgaatcag	aatgtcgcg	gtgaatacgt	tctcgggtct	tgtacacacc	1380
gcccgtcaca	ccacgagagt	tggttgacc	tgaagtagca	ggcctaaccg	taaggaggga	1440
tgttccgagg	gtgtgattag	cgattgggt	gaagtcgtaa	caaggtatcc	gtacggaaac	1500
gt						1502

<210> 5
 <211> 152
 <212> DNA
 <213> *Fusobacterium nucleatum*

<400> 5

aacgtgcgga tggatcacct cctttcttaag gagaatgtgt ctttctctat tctattggta	60
atgttcttac attacttctg aacattggaa actatatagt agaacaaaca agaaaaaaat	120
taactctaaa caatttcttt agagttagct tg	152
<210> 6	
<211> 18	
<212> DNA	
<213> <i>Fusobacterium nucleatum</i>	
<400> 6	
aacgtgcgga tggatcac	18
<210> 7	
<211> 21	
<212> DNA	
<213> <i>Fusobacterium nucleatum</i>	
<400> 7	
ctacgccaata cgactaattc g	21
<210> 8	
<211> 21	
<212> DNA	
<213> <i>Fusobacterium nucleatum</i>	
<400> 8	
ggatttagata ccctggtagt c	21
<210> 9	
<211> 16	
<212> DNA	
<213> <i>Fusobacterium nucleatum</i>	
<400> 9	
gccatcaccc aaatgg	16
<210> 10	
<211> 20	
<212> DNA	
<213> <i>Fusobacterium nucleatum</i>	
<400> 10	
tctaaagaaa ttgttttagag	20

<210> 11
<211> 17
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 11
gtttgatcct ggctcag

17

<210> 12
<211> 17
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 12
cttaacacat gcaagtc

17

<210> 13
<211> 21
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 13
aatgcttaac acatgcaagt c

21

<210> 14
<211> 19
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 14
tcctacggga ggcagcagt

19

<210> 15
<211> 18
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 15
gtcttgatac caccgccc

18

<210> 16
<211> 16
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 16
gccatcaccc aaatgg 16

<210> 17
<211> 18
<212> DNA
<213> *Fusobacterium nucleatum*

<400> 17
aagaaggta accgactt 18